

WHAT IS CLAIMED IS:

5. 1. A printer comprising:
a buffer for storing compressed swath data, the buffer having a storage capacity of Z bytes, where $Z < Y$ and where Y is the number of bytes of uncompressed data representing a full swath; and
a printer controller for decompressing contents of the buffer.
2. The printer of claim 1, the swath data being compressed at a target ratio of $X:1$; wherein the buffer has a storage capacity of about Y/X bytes.
3. The printer of claim 1, further comprising a paper path; and wherein the paper path is advanced by the height of the swath that was actually printed, and wherein remaining rows are printed in a subsequent swath.
4. The printer of claim 1, further comprising a paper path, wherein the paper path is not advanced if all rows of a swath were not printed, and wherein the entire swath is printed in at least two passes.
5. The printer of claim 1, wherein the printer controller and the buffer are embedded in a single ASIC.
6. The printer of claim 1, wherein each row of swath data is compressed independently of other rows of swath data, whereby the swath data is compressed one row at a time.
7. The printer of claim 1, wherein the printer controller monitors the swath buffer to determine whether the swath buffer is full and, if the swath buffer is full, outputs a message indicating that the swath buffer is full.

8. A system comprising:
a host for generating compressed rows of swath data, compression being performed at a target rate of X:1; and

5 a printer for receiving the compressed rows of swath data from the printer, the printer including a swath buffer for storing the compressed rows, the buffer having a storage capacity of Z bytes, where Z is about Y/X and where Y is the number of bytes of uncompressed rows representing a full swath.

9. The system of claim 8, wherein the printer further includes a printer controller for decompressing contents of the swath buffer, the printer controller and the swath buffer being embedded in a single ASIC.

10. The system of claim 8, wherein the host includes a processor and a printer driver for causing the processor to compress as many complete rows of swath data as can fit in the swath buffer, and causing the processor to output the compressed rows to the printer.

11. The system of claim 8, wherein the printer controller monitors the swath buffer to determine whether the swath buffer is full and, if the swath buffer is full, informs the host to stop transmitting compressed rows to the printer.

12. The system of claim 8, the printer further including a paper path; wherein the paper path is advanced by the height of the swath that was actually printed.

13. The system of claim 8, the printer further including a paper path; wherein the paper path is not advanced if all rows of a swath were not printed, and wherein a full swath is printed in at least two passes.

14. The system of claim 8, wherein each row of swath data is compressed independently of other rows of swath data, whereby the swath data is compressed one row at a time.

15. A method of using a printer to print a swath of an image, the method comprising the steps of:

- converting the image to a dot pattern;
- compressing complete rows of the dot pattern;
- transmitting compressed rows of the swath to the printer;
- using the printer to buffer the compressed rows;
- using the printer to decompress the buffered rows; and
- using the printer to print the swath according to the decompressed rows.

16. The method of claim 15, wherein no more than a maximum number of rows is transmitted to the printer; and wherein remaining rows of the swath are compressed and transmitted to the printer after the maximum number of rows has been transmitted and decompressed.

17. The method of claim 15, further comprising the steps of monitoring the swath buffer to determine whether the swath buffer is full and, if the swath buffer is full, stopping the transmission of compressed rows to the printer and allowing the printer to decompress the rows stored in the swath buffer.

18. The method of claim 15, further comprising the step of advancing a sheet by the height of the swath that was actually printed.

19. The method of claim 15, wherein the dot pattern of the swath is compressed at a target rate; and wherein rows of the swath are printed in multiple passes if the target rate of compression for that swath is not achieved.

20. A printer driver for a computer and a printer, the printer having a buffer, the driver comprising:

data for causing the computer to generate a dot pattern from an image;

data for causing the processor to determine a number of complete

5 compressed rows that can fit in the swath buffer;

data for causing the computer to compress the complete rows that can fit in the swath buffer; and

data for causing the computer to transmit the compressed rows to the printer.

[illegible]